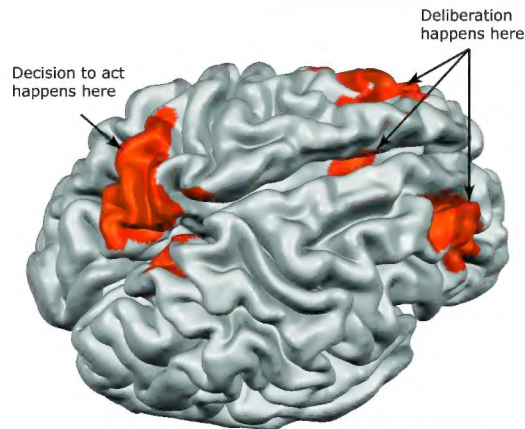


Time and Free Will

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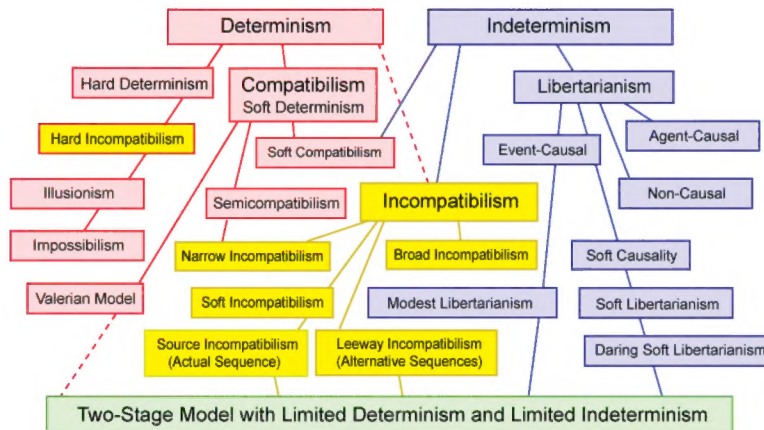
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Anatomy of Free Will



Abstract

Do we have the [free will](#) to choose our future? Is our future strictly determined by our past? Does consciousness represent the interface between past and future? Does the past really carry over into the future? Where does the past exist if nothing more than memories? Answers to these questions and the approach to determining if we are the masters of our own fates requires that we question the underlying *assumptions* about the fundamental nature of [time](#) that have lead us to problems and paradoxes when examining the meaning and reality of determinism and free will in our lives. Are we informed by the past but not controlled by it? It is proposed here that with a correct concept of time as information generated by changes in the configurations of the systems that define our place in the universe, we have **apparent free will** concurrent with our consciousness. **We are a hybrid of determinism and free will.**



Introduction

There are many ways that we can act that may appear to be deterministic or expressions of free will. [see the above diagram]. Determinism depends on the existence of a past and future that can be accessible in the now. Free will is tied to deterministic models of reality that assume the information from the past can be used to determine the future using the laws of physics. Assuming that time exists as a component of space-time leads to false conclusions about whether the universe is deterministic and we have free will to determine our life paths based on the choices we believe we can make. The implications of using a correct theory of time are examined with respect to the philosophy of science. DNA, genetics, and body functions like breathing appear to represent a form of determinism not requiring choice. There are many patterns of behavior that are programmed by the

body and brain that operate without 'insight' required to evaluate information needed to choose between alternative future actions. Do narcissists have choice to be like they are especially when lacking insight and empathy? Consciousness is supported by the 'now' of our existence. Does consciousness depend on continuity or global brain states evolving through sequential transitions from past to now that set up the future states becoming the **now** states that define of our present ongoing state of consciousness?

Rudolf Carnap states in the book '**An Introduction to the Philosophy of Science**' that: "In my opinion, determinism is a special thesis about the causal structure of the world. It is a thesis that maintains that this causal structure is so strong that, given a complete description of the entire state of the world [*universe*] at one instant in **time**, then with the help of the laws [*of physics*], any event in the past or future can be calculated." One can see that his statement is filled with assumptions not the least of which is that it is possible to get a complete description of anything and that this could be done in an instant of time. Past and future are assumed to 'exist' as part of space-time. In the philosophy of science **time** has been fully misunderstood and leads to paradoxes and misinterpretations in the philosophy of physics as well. **Without an understanding of the nature of time we cannot fully understand free will.**

A review of the 7 principles found to be the actual nature of time.

1. **Philosophy of Time:** time exists as information, NOT as a dimension. Time is as real as information is real.
2. **Arrows of Time:** Quantum Arrows of Time [QATs] and all other arrows of time only exist as constructions from signal/information flow in causal networks. All arrows of time point from cause [source] to effect [sink] from simple 2-level systems at the quantum scale such as photon emission in atoms up through the cosmological domain through hierarchical scaling of interconnected causal networks at various plateaus of complexity [POCs].
3. **Direction of Time:** only exists as directions associated with vectors representing arrows of time pointing from cause to effect [source to sink] in the causal networks of the evolving universe.
4. **There is no Time to travel 'in', only space** [i.e. the vacuum] where the 'now' created by our consciousness is all we can directly experience. Note that the vacuum exists as a physical entity and space is only a map of this fundamental basis for the universe.

"The Map is not the territory" - Alfred Korzybski

5. **Our brains T-computer creates 'time' labeled maps of change** seen in the observed patterns in the configurations of matter in the universe. The T-computer creates sequential time stamped and labeled memories representing what we perceive. **Change is a Fundamental property of the universe, time is not.**

"No change, then, no time" - J. B. Priestley

6. **The Problem of Time** therefore has been solved using Feynman Clocks, T-computers, and Causal Networks.
7. **The Vacuum is space and Time is a measure of change** in the configurations of matter floating on the surface of the vacuum. We attribute dimensions to the vacuum [space] as part of our application of geometry [models] to the real world. The vacuum is much more complex than mere 'empty' space. The vacuum is in fact a multi-vacuum with properties that depend locally on matter and globally on cosmic universality. Cosmological evolution is measured by the maps of change we construct using time as a metric.

Special Note: Time is still useful as a measure of change in our daily lives. Using repeating reproducible regular signal generating systems such as standard clocks [e.g. atomic clocks, watches, computer clocks etc.] gives us a way to create our ordered time maps. Time produced by comparison of a standard clock with the observed system and processed by our brains T-computer or similar 'clocked' information processing devices is 'real'. The reality of time as a pacer of human activities is embedded in our lives. Our manufactured time is used to identify the past of our lives and define the possibilities of the future...**change does not occur in time but is used to create it for use in mapping our memories and patterns of the world around us.**

What does time have to do with free will and determinism?

Time maps free will and separates our past and future putting us firmly in the now of our consciousness. This now we live in is where free will exists along with our DNA driven deterministic body limitations. The short answer is that we have *apparent* free will since the past does not exist.

What we call the past is our map of patterns that occurred previously to our current state of consciousness in the now. The information about the previous configurations of the universe exists in our memories which we can use to process into a useful form to develop a set of behaviors that creates a future. Determinism is relegated to those behaviors controlled and programmed by our DNA and genetics within the constraints of what is possible to do with our bodies while obeying the need to survive. We are a **hybrid** combination of **biological determinism** with the **apparent free will** of our brain limited to operating in the **now**. Our free will is apparent because we are a **hybrid** of biological determinism and free will to choose how we act under the constraints of our limitations. **Time in this paradigm is a parameter not an observable** created by our **T-computer** to map reality as it is observed in the now. The *apparent* form of free will is the result of our hybrid status.

Conclusion: We are a hybrid combination of apparent free will and DNA driven deterministic body functions whose actions are measured with the time that we construct to map the patterns of change in our lives and the evolution of the universe around us.